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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/769,699

DATE: 05/02/2002

TIME: 17:22:14

Input Set : A:\61152-A.txt

Output Set: N:\CRF3\05022002\I769699.raw

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3 <110> APPLICANT: Silverstein, Saul J
4     Lungu, Octavian
5     Gershon, Anne A
6     Annunziato, Paula W
8 <120> TITLE OF INVENTION: VZV ORF29p Protein-Related Compositions and Methods
10 <130> FILE REFERENCE: 0575/61152-A
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/769,699
C--> 12 <141> CURRENT FILING DATE: 2002-04-22
12 <160> NUMBER OF SEQ ID NOS: 2
14 <170> SOFTWARE: PatentIn version 3.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 3610
18 <212> TYPE: DNA
19 <213> ORGANISM: Varicella zoster
21 <220> FEATURE:
22 <221> NAME/KEY: CDS
23 <222> LOCATION: (1)..(3609)
24 <223> OTHER INFORMATION:
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29 Met Glu Asn Thr Gln Lys Thr Val Thr Val Pro Thr Gly Pro Leu Gly
30 1                               5                               10                               15
32 tac gtt tat gcg tgc cgg gtt gaa gat ttg gat ctg gag gaa att tca      96
33 Tyr Val Tyr Ala Cys Arg Val Glu Asp Leu Asp Leu Glu Glu Ile Ser
34                               20                               25                               30
36 ttt ttg gcc gct cgt agc acg gac tct gat ttg gct tta tta cct ttg      144
37 Phe Leu Ala Ala Arg Ser Thr Asp Ser Asp Leu Ala Leu Leu Pro Leu
38                               35                               40                               45
40 atg cgt aat ttg acc gtg gaa aaa act ttt aca tcc agc ctg gcg gtg      192
41 Met Arg Asn Leu Thr Val Glu Lys Thr Phe Thr Ser Ser Leu Ala Val
42                               50                               55                               60
44 gtt tct gga gca cgc act acg ggt ctt gcc gga gct ggt att acc tta      240
45 Val Ser Gly Ala Arg Thr Thr Gly Leu Ala Gly Ala Gly Ile Thr Leu
46 65                               70                               75                               80
48 aaa ctc act acc agt cat ttc tat cca tct gtc ttt gtc ttt cac gga      288
49 Lys Leu Thr Thr Ser His Phe Tyr Pro Ser Val Phe Val Phe His Gly
50                               85                               90                               95
52 ggc aaa cac gtt tta ccc agc tcc gcg gcc cca aat ctc aca cgc gcg      336
53 Gly Lys His Val Leu Pro Ser Ser Ala Ala Pro Asn Leu Thr Arg Ala
54                               100                              105                              110
56 tgt aac gcg gct cga gaa cgg ttt ggg ttt tca cgc tgc caa ggg cct      384
57 Cys Asn Ala Ala Arg Glu Arg Phe Gly Phe Ser Arg Cys Gln Gly Pro
58                               115                              120                              125

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60	cct gtt gac ggt gct gtt gag acg acc ggc gct gag ata tgc acc cgc	432
61	Pro Val Asp Gly Ala Val Glu Thr Thr Gly Ala Glu Ile Cys Thr Arg	
62	130 135 140	
64	ctt gga tta gag cca gaa aat aca ata tta tac ttg gtg gtc acg gca	480
65	Leu Gly Leu Glu Pro Glu Asn Thr Ile Leu Tyr Leu Val Val Thr Ala	
66	145 150 155 160	
68	ttg ttt aag gaa gcc gta ttt atg tgc aac gtg ttt ctg cat tat gga	528
69	Leu Phe Lys Glu Ala Val Phe Met Cys Asn Val Phe Leu His Tyr Gly	
70	165 170 175	
72	gga ctc gat att gtt cat att aac cat ggg gat gtt ata cgt ata ccg	576
73	Gly Leu Asp Ile Val His Ile Asn His Gly Asp Val Ile Arg Ile Pro	
74	180 185 190	
76	tta ttt ccg gta caa ctt ttc atg ccc gat gtt aac cgt ctg gta ccc	624
77	Leu Phe Pro Val Gln Leu Phe Met Pro Asp Val Asn Arg Leu Val Pro	
78	195 200 205	
80	gac cca ttc aac act cat cac agg tct atc gga gag ggt ttt gta tac	672
81	Asp Pro Phe Asn Thr His His Arg Ser Ile Gly Glu Gly Phe Val Tyr	
82	210 215 220	
84	cca aca ccc ttt tat aac acc ggg ttg tgc cat tta ata cat gac tgt	720
85	Pro Thr Pro Phe Tyr Asn Thr Gly Leu Cys His Leu Ile His Asp Cys	
86	225 230 235 240	
88	gtt att gct ccc atg gcc gtt gcc ttg cgc gtc aga aat gta act gcc	768
89	Val Ile Ala Pro Met Ala Val Ala Leu Arg Val Arg Asn Val Thr Ala	
90	245 250 255	
92	gtc gcc cga gga gcg gcc cac ctt gct ttt gat gaa aat cac gag ggg	816
93	Val Ala Arg Gly Ala Ala His Leu Ala Phe Asp Glu Asn His Glu Gly	
94	260 265 270	
96	gca gta ctc ccc cct gac att acg tac acg tat ttt cag tcc tct tca	864
97	Ala Val Leu Pro Pro Asp Ile Thr Tyr Thr Tyr Phe Gln Ser Ser Ser	
98	275 280 285	
100	agt gga acc act acc gcc cgt gga gcg cgt cga aac gat gtc aac tcc	912
101	Ser Gly Thr Thr Thr Ala Arg Gly Ala Arg Arg Asn Asp Val Asn Ser	
102	290 295 300	
104	acg tct aag cct agc cca tcg ggg ggg ttt gaa aga cgg ttg gcg tct	960
105	Thr Ser Lys Pro Ser Pro Ser Gly Gly Phe Glu Arg Arg Leu Ala Ser	
106	305 310 315 320	
108	att atg gcc gct gac aca gcc ttg cac gca gaa gtt ata ttc aac act	1008
109	Ile Met Ala Ala Asp Thr Ala Leu His Ala Glu Val Ile Phe Asn Thr	
110	325 330 335	
112	gga att tac gaa gaa act cca aca gat atc aaa gaa tgg cca atg ttt	1056
113	Gly Ile Tyr Glu Glu Thr Pro Thr Asp Ile Lys Glu Trp Pro Met Phe	
114	340 345 350	
116	ata ggc atg gag ggc act ttg cca agg cta aac gct ctg ggg tca tat	1104
117	Ile Gly Met Glu Gly Thr Leu Pro Arg Leu Asn Ala Leu Gly Ser Tyr	
118	355 360 365	
120	acc gct cgt gtg gcc ggg gtc att ggt gcg atg gtt ttc agc cca aat	1152
121	Thr Ala Arg Val Ala Gly Val Ile Gly Ala Met Val Phe Ser Pro Asn	
122	370 375 380	
124	tct gcg ttg tat cta act gag gtg gag gat agc ggg atg acc gaa gcc	1200

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125 Ser Ala Leu Tyr Leu Thr Glu Val Glu Asp Ser Gly Met Thr Glu Ala
126 385 390 395 400
128 aag gat ggg gga ccg ggt cca tca ttt aat cga ttt tac cag ttt gcc 1248
129 Lys Asp Gly Gly Pro Gly Pro Ser Phe Asn Arg Phe Tyr Gln Phe Ala
130 405 410 415
132 gga cct cat tta gct gcg aat ccc caa aca gat cga gat ggc cac gtt 1296
133 Gly Pro His Leu Ala Ala Asn Pro Gln Thr Asp Arg Asp Gly His Val
134 420 425 430
136 cta tcc agt cag tct acg ggt tca tca aac aca gag ttt agc gtg gat 1344
137 Leu Ser Ser Gln Ser Thr Gly Ser Ser Asn Thr Glu Phe Ser Val Asp
138 435 440 445
140 tat ttg gca ctc att tgt gga ttt gga gca ccc ctg ttg gcg cga ctg 1392
141 Tyr Leu Ala Leu Ile Cys Gly Phe Gly Ala Pro Leu Leu Ala Arg Leu
142 450 455 460
144 ctt ttt tat cta gaa cgc tgt gac gct ggt gcg ttt aca ggg ggt cac 1440
145 Leu Phe Tyr Leu Glu Arg Cys Asp Ala Gly Ala Phe Thr Gly Gly His
146 465 470 475 480
148 ggg gat gcg tta aaa tat gtt acg ggg acc ttt gac tct gaa att cca 1488
149 Gly Asp Ala Leu Lys Tyr Val Thr Gly Thr Phe Asp Ser Glu Ile Pro
150 485 490 495
152 tgt agt tta tgt gaa aaa cac acg ccg ccg gta tgc gct cac aca aca 1536
153 Cys Ser Leu Cys Glu Lys His Thr Arg Pro Val Cys Ala His Thr Thr
154 500 505 510
156 gta cac cga ctt aga caa cgc atg ccg cga ttt gga caa gcc acc cgt 1584
157 Val His Arg Leu Arg Gln Arg Met Pro Arg Phe Gly Gln Ala Thr Arg
158 515 520 525
160 caa cct att ggg gtg ttt gga aca atg aac agc caa tat agc gac tgc 1632
161 Gln Pro Ile Gly Val Phe Gly Thr Met Asn Ser Gln Tyr Ser Asp Cys
162 530 535 540
164 gat cct cta gga aac tat gct cca tat tta atc ctt cga aaa ccc ggg 1680
165 Asp Pro Leu Gly Asn Tyr Ala Pro Tyr Leu Ile Leu Arg Lys Pro Gly
166 545 550 555 560
168 gat caa acg gaa gca gca aag gca acc atg cag gac act tat agg gct 1728
169 Asp Gln Thr Glu Ala Ala Lys Ala Thr Met Gln Asp Thr Tyr Arg Ala
170 565 570 575
172 aca cta gaa cgc ttg ttt atc gat cta gaa caa gag cga cta ctg gat 1776
173 Thr Leu Glu Arg Leu Phe Ile Asp Leu Glu Gln Glu Arg Leu Leu Asp
174 580 585 590
176 cgc ggt gcc cca tgt tct tcc gag gga cta tcg tct gtc att gtg gat 1824
177 Arg Gly Ala Pro Cys Ser Ser Glu Gly Leu Ser Ser Val Ile Val Asp
178 595 600 605
180 cat cca acg ttt cgt cgc ata tta gac aca ctg cgt gcg cgt ata gaa 1872
181 His Pro Thr Phe Arg Arg Ile Leu Asp Thr Leu Arg Ala Arg Ile Glu
182 610 615 620
184 cag aca aca aca caa ttt atg aaa gtg ttg gtt gag acc cgc gat tat 1920
185 Gln Thr Thr Thr Gln Phe Met Lys Val Leu Val Glu Thr Arg Asp Tyr
186 625 630 635 640
188 aag atc cgt gaa gga tta tcc gaa gcc acc cat tca atg gcg tta acg 1968
189 Lys Ile Arg Glu Gly Leu Ser Glu Ala Thr His Ser Met Ala Leu Thr

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192	ttt gat cca tac tca gga gca ttt tgt ccc att acc aat ttt tta gtt				
193	Phe Asp Pro Tyr Ser Gly Ala Phe Cys Pro Ile Thr Asn Phe Leu Val				
194		660	665	670	2064
196	aaa cga aca cac cta gcc gtg gta caa gac tta gca tta agc caa tgt				
197	Lys Arg Thr His Leu Ala Val Val Gln Asp Leu Ala Leu Ser Gln Cys				
198		675	680	685	2112
200	cat tgt gta ttt tac gga cag caa gtt gag ggg cgg aac ttt cgt aac				
201	His Cys Val Phe Tyr Gly Gln Gln Val Glu Gly Arg Asn Phe Arg Asn				
202		690	695	700	2160
204	caa ttc caa cct gtt ttg cgg cgg cgt ttt gtt gac ctg ttt aat ggg				
205	Gln Phe Gln Pro Val Leu Arg Arg Arg Phe Val Asp Leu Phe Asn Gly				
206	705	710	715	720	2208
208	ggg ttt ata tca aca cgc tct ata acc gta aca tta tct gaa ggt cct				
209	Gly Phe Ile Ser Thr Arg Ser Ile Thr Val Thr Leu Ser Glu Gly Pro				
210		725	730	735	2256
212	gta tcc gcc cca aat ccg aca ttg gga caa gac gcg ccc gcg ggg cgt				
213	Val Ser Ala Pro Asn Pro Thr Leu Gly Gln Asp Ala Pro Ala Gly Arg				
214		740	745	750	2304
216	acc ttt gat ggg gat tta gcg cgc gta agc gtg gaa gtt att cgg gat				
217	Thr Phe Asp Gly Asp Leu Ala Arg Val Ser Val Glu Val Ile Arg Asp				
218		755	760	765	2352
220	ata cga gtt aaa aat agg gtc gtt ttt tca ggt aac tgt aca aat ctc				
221	Ile Arg Val Lys Asn Arg Val Val Phe Ser Gly Asn Cys Thr Asn Leu				
222		770	775	780	2400
224	tct gag gca gcc cgg gca agg ctt gta ggc ctt gca agt gcg tac caa				
225	Ser Glu Ala Ala Arg Ala Arg Leu Val Gly Leu Ala Ser Ala Tyr Gln				
226	785	790	795	800	2448
228	cgc caa gaa aaa aga gtg gat atg tta cac ggg gcc cta ggg ttt ttg				
229	Arg Gln Glu Lys Arg Val Asp Met Leu His Gly Ala Leu Gly Phe Leu				
230		805	810	815	2496
232	ctt aaa cag ttt cac ggc ctg tta ttt cct cgg ggt atg cca cca aac				
233	Leu Lys Gln Phe His Gly Leu Leu Phe Pro Arg Gly Met Pro Pro Asn				
234		820	825	830	2544
236	agt aaa tcc ccc aac ccg cag tgg ttt tgg acc ctg tta caa cgc aac				
237	Ser Lys Ser Pro Asn Pro Gln Trp Phe Trp Thr Leu Leu Gln Arg Asn				
238		835	840	845	2592
240	cag atg ccg gca gat aaa ctt aca cac gaa gag att acc act att gca				
241	Gln Met Pro Ala Asp Lys Leu Thr His Glu Glu Ile Thr Thr Ile Ala				
242		850	855	860	2640
244	gct gtt aaa cgg ttt acc gag gaa tat gca gca ata aac ttt att aat				
245	Ala Val Lys Arg Phe Thr Glu Glu Tyr Ala Ala Ile Asn Phe Ile Asn				
246	865	870	875	880	2688
248	cta ccc cca acc tgc ata gga gaa tta gcc cag ttt tat atg gca aat				
249	Leu Pro Pro Thr Cys Ile Gly Glu Leu Ala Gln Phe Tyr Met Ala Asn				
250		885	890	895	2736
252	ctt att ctt aaa tac tgc gat cat tca cag tac ctt ata aat acc tta				
253	Leu Ile Leu Lys Tyr Cys Asp His Ser Gln Tyr Leu Ile Asn Thr Leu				
254		900	905	910	

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256	act	tct	ata	att	acg	ggt	gcc	agg	cgc	ccg	cgt	gac	cca	tca	tcc	gtt	2784
257	Thr	Ser	Ile	Ile	Thr	Gly	Ala	Arg	Arg	Pro	Arg	Asp	Pro	Ser	Ser	Val	
258			915				920						925				
260	ttg	cat	tgg	att	cgt	aaa	gat	gtc	acg	tcc	gcc	gcg	gac	ata	gaa	acc	2832
261	Leu	His	Trp	Ile	Arg	Lys	Asp	Val	Thr	Ser	Ala	Ala	Asp	Ile	Glu	Thr	
262			930				935						940				
264	caa	gca	aag	gcg	ctt	ctt	gaa	aaa	acg	gaa	aac	tta	ccg	gaa	tta	tgg	2880
265	Gln	Ala	Lys	Ala	Leu	Leu	Glu	Lys	Thr	Glu	Asn	Leu	Pro	Glu	Leu	Trp	
266	945					950					955						
268	act	acg	gct	ttt	act	tca	act	cat	tta	gtc	cgc	gcg	gcc	atg	aat	caa	2928
269	Thr	Thr	Ala	Phe	Thr	Ser	Thr	His	Leu	Val	Arg	Ala	Ala	Met	Asn	Gln	
270				965					970						975		
272	cgt	ccc	atg	gtc	gtt	tta	gga	ata	agc	att	agt	aaa	tat	cac	gga	gcg	2976
273	Arg	Pro	Met	Val	Val	Leu	Gly	Ile	Ser	Ile	Ser	Lys	Tyr	His	Gly	Ala	
274				980					985						990		
276	gca	gga	aac	aac	cgc	gtc	ttt	cag	gca	ggg	aat	tgg	agc	ggt	tta	aac	3024
277	Ala	Gly	Asn	Asn	Arg	Val	Phe	Gln	Ala	Gly	Asn	Trp	Ser	Gly	Leu	Asn	
278			995				1000						1005				
280	ggg	ggt	aaa	aat	gta	tgc	ccg	cta	ttt	aca	ttt	gat	cgc	act	cgc		3069
281	Gly	Gly	Lys	Asn	Val	Cys	Pro	Leu	Phe	Thr	Phe	Asp	Arg	Thr	Arg		
282		1010					1015					1020					
284	cgt	ttt	ata	ata	gca	tgt	cct	aga	gga	ggt	ttt	atc	tgc	ccc	gta		3114
285	Arg	Phe	Ile	Ile	Ala	Cys	Pro	Arg	Gly	Gly	Phe	Ile	Cys	Pro	Val		
286		1025					1030					1035					
288	aca	ggt	ccc	tcg	tcg	gga	aat	cga	gaa	acc	acc	cta	tcc	gac	caa		3159
289	Thr	Gly	Pro	Ser	Ser	Gly	Asn	Arg	Glu	Thr	Thr	Leu	Ser	Asp	Gln		
290		1040					1045					1050					
292	gtt	cgc	ggt	ata	att	gtc	agt	ggc	ggg	gcc	atg	gtt	caa	tta	gcc		3204
293	Val	Arg	Gly	Ile	Ile	Val	Ser	Gly	Gly	Ala	Met	Val	Gln	Leu	Ala		
294		1055					1060					1065					
296	ata	tac	gcc	acg	gtt	gtg	cgt	gca	gtg	ggc	gct	cga	gca	caa	cat		3249
297	Ile	Tyr	Ala	Thr	Val	Val	Arg	Ala	Val	Gly	Ala	Arg	Ala	Gln	His		
298		1070					1075					1080					
300	atg	gca	ttt	gac	gac	tgg	tta	agt	ctt	aca	gac	gat	gag	ttt	tta		3294
301	Met	Ala	Phe	Asp	Asp	Trp	Leu	Ser	Leu	Thr	Asp	Asp	Glu	Phe	Leu		
302		1085					1090					1095					
304	gcc	aga	gac	ttg	gag	gag	tta	cac	gac	cag	att	atc	caa	acc	ctg		3339
305	Ala	Arg	Asp	Leu	Glu	Glu	Leu	His	Asp	Gln	Ile	Ile	Gln	Thr	Leu		
306		1100					1105					1110					
308	gaa	acg	ccc	tgg	acc	gta	gaa	ggc	gct	cta	gaa	gca	gta	aag	att		3384
309	Glu	Thr	Pro	Trp	Thr	Val	Glu	Gly	Ala	Leu	Glu	Ala	Val	Lys	Ile		
310		1115					1120					1125					
312	cta	gat	gaa	aaa	acg	aca	gcg	gga	gat	ggg	gaa	acc	ccc	aca	aac		3429
313	Leu	Asp	Glu	Lys	Thr	Thr	Ala	Gly	Asp	Gly	Glu	Thr	Pro	Thr	Asn		
314		1130					1135					1140					
316	cta	gca	ttt	aat	ttt	gat	tct	tgt	gaa	cca	agc	cat	gac	acc	aca		3474
317	Leu	Ala	Phe	Asn	Phe	Asp	Ser	Cys	Glu	Pro	Ser	His	Asp	Thr	Thr		
318		1145					1150					1155					
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L:12 M:270 C: Current Application Number differs, Replaced Current Application No  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date